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(11) **EP 1 341 046 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
15.12.2004 Bulletin 2004/51

(51) Int Cl.7: **G03F 7/20, G03F 9/00**

(43) Date of publication A2:
03.09.2003 Bulletin 2003/36

(21) Application number: **03251184.2**

(22) Date of filing: **27.02.2003**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PT SE SI SK TR**
Designated Extension States:
AL LT LV MK RO

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(30) Priority: **01.03.2002 EP 02251440**

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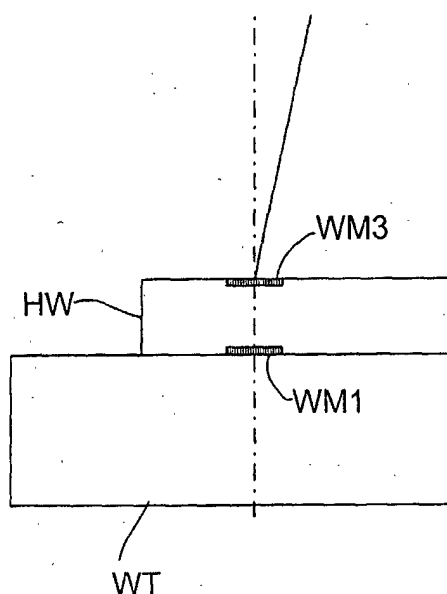
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(54) **Calibration methods, calibration substrates, lithographic apparatus and device manufacturing methods**

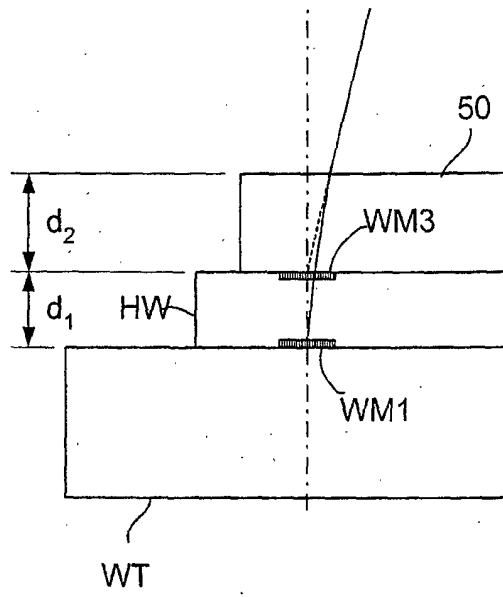
(57) To calibrate a front-to-backside alignment system a transparent calibration substrate with reference markers on opposite sides is used. A plane plate is inserted to displace the focal position of the alignment system from the top to bottom surface of the calibration substrate.

Fig. 6a



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Fig. 6b





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EUROPEAN SEARCH REPORT

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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 19 October 2004	Examiner Thiele, N
CATEGORY OF CITED DOCUMENTS X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons & : member of the same patent family, corresponding document			

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Place of search Munich		Date of completion of the search 19 October 2004	Examiner Thiele, N
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EPO FORM 1503 03.92 (P04C01)



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Application Number
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Munich		19 October 2004	Thiele, N
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



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**LACK OF UNITY OF INVENTION
SHEET B**

Application Number
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-22

Method for calibrating an alignment system by providing a transparent calibration substrate with at least one reference marker being detectable from both first and second sides of the substrate, performing a first and a second alignment with an alignment beam directed on the first and second surface, wherein a plane plate is interposed into the alignment beam.

2. claims: 23-26

Claim 23-25 (and 26 insofar it is referred back to claims 23-25) relate generally to a calibration substrate having a thickness of less or equal to 10 micrometers in the vicinity of an alignment marker being characterized by the functional feature that the alignment marker should be detectable from both sides of the substrate.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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